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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/801,942	03/16/2004	Charles H. Moore	0057-011	2932
40972	7590	05/15/2006	EXAMINER	
HENNEMAN & SAUNDERS 714 WEST MICHIGAN AVENUE THREE RIVERS, MI 49093			CODY, DILLON J	
			ART UNIT	PAPER NUMBER
			2183	

DATE MAILED: 05/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/801,942

Applicant(s)

MOORE, CHARLES H.

Examiner

Dillon J. Cody

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 March 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 1-26 are pending.

Papers Filed

2. Examiner acknowledges receipt of claims, disclosure, and drawings, all filed 16 March 2004, and declaration filed 28 July 2004.

Title

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Drawings

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the computers being assigned to different tasks (claims 1, 2, 14, 19 and 23), asynchronous communication (claim 5, 22), a plurality of parallel data lines (claim 6), and the global positioning system receiver (claim 24) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not

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be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

5. Claims are objected to because of the following informalities:

Claim 24: The sentence does not make sense as it currently reads, as a global positioning system receiver cannot be accomplished.

Examiner will interpret the claim to read "accomplishing functions of a global positioning system receiver."

6. Appropriate correction is required.

Claim Rejections - 35 USC § 101

7. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

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Claims 14-18 and 23-26 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Nothing in the method claims 14-18 and 23-26 requires any computer hardware to perform the process and can be interpreted simply as a series of mental steps. As such, the claims are not tangible and hence, non-statutory. The examiner recommends either amending the preamble to read "A computer-implemented method..." or to add an additional step to claims 14 and 23: "executing the tasks on the assigned computers".

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-4, 6-7, 12-14, 17-21, and 23-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Hogenauer (US Publication No. 2003/0028750).

10. As per claim 1, Hogenauer teaches a computer array, comprising: a plurality of computers (Fig. 1 matrices 150); and a plurality of data paths connecting the computers (Fig. 1 interconnection network 110); wherein: at least

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some of the computers are assigned a task different from that assigned to the other computers. (Paragraph 4)

11. As per claim 2, Hogenauer teaches the computer array of claim 1, wherein: each of the computers is assigned a task different from that of the other computers. (Paragraph 4)

12. As per claim 3, Hogenauer teaches the computer array of claim 1, wherein: at least some of the computers are configured for specific input functions. *The examiner asserts that each and every matrix must inherently be able to input data. Without input data, the processor could not perform any function.*

13. As per claim 4, Hogenauer teaches the computer array of claim 1, wherein: at least some of the computers are configured for specific output functions. *The examiner asserts that Hogenauer's processor must inherently contain at least one matrix which can output data, as indicated in Fig. 1. Further, a processor which cannot output data can perform no useful function.*

14. As per claim 6, Hogenauer teaches the computer array of claim 1, wherein: communication between the computers is via a plurality of parallel data lines. *Paragraph 5 discloses the system to be a multi-bit system, which defines the data bus to be of a size greater than one bit.*

15. As per claim 7, Hogenauer teaches the computer array of claim 1, wherein: each of the computers is hard wired to communicate with at least three of the plurality of computers. *The examiner asserts that, as shown in Fig. 1, each matrix may communicate with each other matrix by means of the interconnection network 110.*

16. As per claim 12, Hogenauer teaches the computer array of claim 1, wherein: at least one of the computers is in direct communication with an external memory source. *As shown in Fig. 1, each matrix is connected directly to memory 140 by means of interconnection network 110.*

17. As per claim 13, Hogenauer teaches the computer array of claim 1, wherein: at least one of the computers communicates data from an external memory source to at least some of the plurality of computers. *The examiner asserts that, as shown in Fig. 1, memory 140 is external to the matrix processing blocks.*

18. Claim 14 is directed to a method implementing the details of the array of claim 1 and is rejected under the same grounds.

19. Claim 17 is directed to a method implementing the details of the array of claims 3 and 4 and is rejected under the same grounds.

20. As per claim 18, Hogenauer teaches the method of claim 14, wherein: one of the computers routes assignments to the remainder of the computers.

(Paragraph 15)

21. Claim 19 is directed to an array implementing the details of the array of claim 1 and is rejected under the same grounds.

22. As per claim 20, Hogenauer teaches the computer array of claim 19, wherein: the different functions work together to accomplish a task. *Hogenauer's processor inherently accomplishes a task, depending on what it is programmed to do. The processors execute different portions of the task (paragraph 4).*

23. As per claim 21, Hogenauer teaches the computer array of claim 19, wherein: each of the functions is programmed into the respective computers when the computer array is initialized. *The examiner asserts that the matrices must inherently be programmed once processing is initialized. If it weren't, the processor would be unable to accomplish its assigned task.*

24. Claim 23 is directed to a method implementing the details of the array of claims 1 and 21 and is rejected under the same grounds.

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25. As per claim 24, Hogenauer teaches the method for accomplishing a task of claim 23, wherein: the operational components are operations used in accomplishing a global positioning system receiver. (Paragraph 2)

26. Claim 25 is directed to a method implementing the details of the array of claim 21 and is rejected under the same grounds.

27. As per claim 26, Hogenauer teaches the method for accomplishing a task of claim 23, wherein: the computers are arranged in a computer array. (Fig. 1)

28. Claims 1, 14, 19 and 23 are rejected under 35 U.S.C. 102(a) as being anticipated by Applicant's admitted prior art.

29. As per claim 1, the prior art discloses a computer array, comprising: a plurality of computers; and a plurality of data paths connecting the computers; wherein: at least some of the computers are assigned a task different from that assigned to the other computers. (Page 1 lines 20-22). *The examiner notes that a plurality of computers combined to perform a task must inherently be interconnected to accomplish the task. If they weren't, the task could not be divided. Further, the computers must inherently be programmed to perform their assigned functions.*

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30. Claims 14, 19 and 23 are directed to methods and an array implementing the details of claim 1 and are rejected under the same grounds.

Claim Rejections - 35 USC § 103

31. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

32. Claims 5, 8-11, 15-16, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hogenauer.

33. As per claim 5, Hogenauer teaches the computer array of claim 1, but fails to disclose wherein: communication between the computers is asynchronous.

34. Official Notice is taken that asynchronous communication is well known in the art. Asynchronous communication provides the benefit of not having to provide a single clock signal to multiple elements, eliminating wiring and decreasing physical size of the logic.

35. It would have been obvious to one of ordinary skill in the art at the time of invention to have included asynchronous communication lines between Hogenauer's matrices 150 for the benefit of decreased wiring and physical logic size.

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36. As per claim 8, Hogenauer teaches the computer array of claim 1, but fails to disclose wherein: the quantity of computers is 25.

37. Official Notice is taken that modifying the number of processors in the system is well known in the art. Increasing the number of processors would increase the throughput of execution.

38. It would have been obvious to one of ordinary skill in the art at the time of invention to have included 25 matrices in Hogenauer's processor for the benefit of increased processing throughput.

39. As per claim 9, Hogenauer teaches the computer array of claim 1, but fails to disclose wherein: the computers are physically arrayed in a 5 by 5 array.

40. Official Notice is taken that modifying the number and arrangement of processors is well known in the art. A five by five array provides more processors, therefore increased processing throughput.

41. It would have been obvious to one of ordinary skill in the art at the time of invention to have increased the number of matrices in Hogenauer's processor and to have arranged them in a five by five array for the benefit of increased processing throughput.

42. Further, as shown in In re Japikse, 86 USPQ 70 (CCPA 1950), shifting location of parts is generally not given patentable weight or would have been obvious improvements.

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43. As per claim 10, Hogenauer teaches the computer array of claim 1, but fails to teach wherein: at least some of the computers are physically arrayed in a 4 by 6 array.

44. Official Notice is taken that modifying the number and arrangement of processors is well known in the art. A four by six array provides more processors, therefore increased processing throughput.

45. It would have been obvious to one of ordinary skill in the art at the time of invention to have increased the number of matrices in Hogenauer's processor and to have arranged them in a four by six array for the benefit of increased processing throughput.

46. Further, as shown in In re Japikse, 86 USPQ 70 (CCPA 1950), shifting location of parts is generally not given patentable weight or would have been obvious improvements.

47. As per claim 11, Hogenauer teaches the computer array of claim 1, but fails to teach wherein: the quantity of computers along each side of the array is an even number.

48. Official Notice is taken that arranging processors in an array with multiple rows and columns is well known in the art. An array with multiple rows and columns decreases interconnection length between processors.

49. It would have been obvious to one of ordinary skill in the art at the time of invention to have arranged Hogenauer's four matrices in a grid formation of two by two to decrease interconnection length between the matrices.

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50. Further, as shown in In re Japikse, 86 USPQ 70 (CCPA 1950), shifting location of parts is generally not given patentable weight or would have been obvious improvements.

51. As per claim 15, Hogeneauer teaches the method of claim 14, wherein: at least one of the computers is assigned to communicate with a memory, but fails to teach flash memory.

52. Official Notice is taken that flash memory is well known in the art. Flash memory provides quick storage and retains values after power has been removed from the memory.

53. It would have been obvious to one of ordinary skill in the art at the time of invention to have used flash memory for memory 140 in Hogeneauer's processor for the benefit of retaining information after power had been shut off.

54. As per claim 16, Hogeneauer teaches the method of claim 14, wherein: at least one of the computers is assigned to communicate with a memory, but fails to teach random access memory.

55. Official Notice is taken that random access memory (RAM) is well known in the art. RAM provides a method of storing large amounts of data at a low cost.

56. It would have been obvious to one of ordinary skill in the art at the time of invention to have used RAM as memory 140 in Hogeneauer's processor.

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57. Claim 22 is directed to an array implementing the details of the array of claim 5 and is rejected under the same grounds.

Conclusion

58. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Reeve et al. (U.S. Patent No. 5,535,393) disclose an array of processors working together to each accomplish a subtask of a task.

59. The following is text cited from 37 CFR 1.111(c): In amending in reply to a rejection of claims in an application or patent under reexamination, the applicant or patent owner must clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. The applicant or patent owner must also show how the amendments avoid such references or objections.

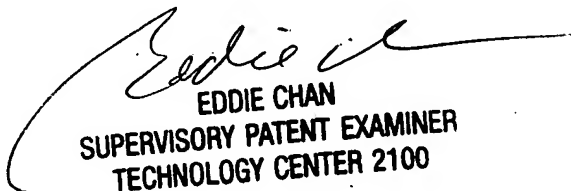
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dillon Cody whose telephone number is 571-272-8401. The examiner can normally be reached on Mon - Fri, 8 AM - 5 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Chan can be reached on 571-272-4162. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DJC



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